

A NEW SPECIES OF *HUMEROBATES* WITH NOTES ON *BALOGHOBATES* (ACARINA, ORIBATIDA)

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Synopsis

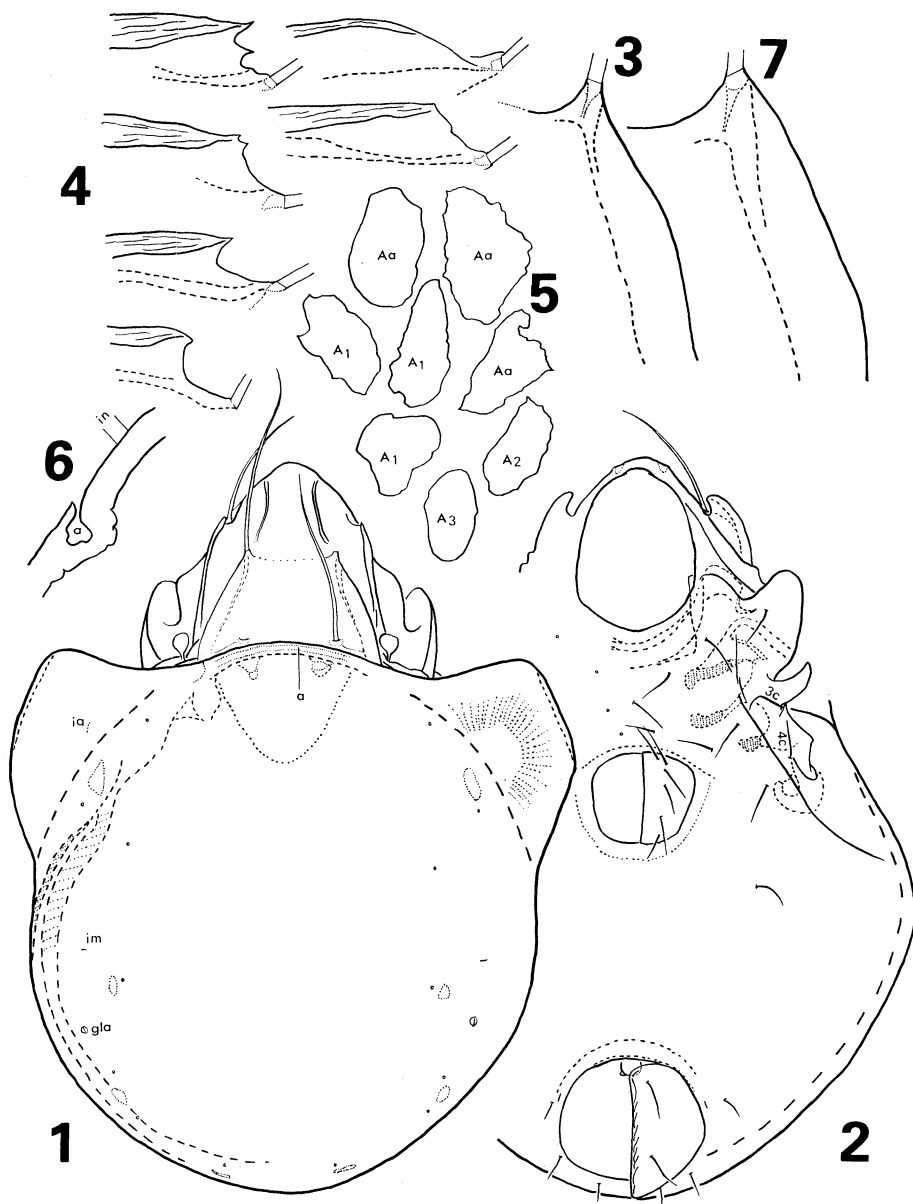
OHKUBO, Norihide (3-32, Sanjo 3, Suzuka-shi, Mié 513, Japan: A new species of *Humerobates* with notes on *Baloghobates* (Acarina, Oribatida). *Acta arachnol.*, 31: 1-5 (1982).

The European specimens of *Humerobates rostromellatus* and the holotype of *Baloghobates nudus* were examined. An oribatid mite known as *B. nudus* in Japan was found to belong to *Humerobates* and was newly described under the name of *H. varius*.

A great number of oribatid mites are sometimes found on Japanese black pine, *Pinus thunbergii*, at coastal region in Mié Prefecture. Most of them usually belong to a single species, which is thought to be identical with *Baloghobates nudus* HAMMER, 1967 from New Zealand. Meanwhile, the mite collected in Japan has a great resemblance to *Humerobates* species in adulthood. A nymph of one species of the latter genus was figured by GRANDJEAN (1970). As compared with the figure, the Japanese species was found to have almost the same morphology as in *Humerobates* species in nymphal stage also. In order to determine the status of the Japanese one, the author examined the holotype of *B. nudus* and European specimens of *H. rostromellatus*, the type-species of the genus. After that, it was found that *Baloghobates* is a well separated taxon but that the Japanese species is an unknown member of *Humerobates*. It is described below as a new species.

Humerobates varius spec. nov.

Baloghobates nudus: SUZUKI, 1975, p. 69, figs. 1-14; AOKI, 1980, p. 122.



Figs. 1-7. — 1-6. *Humerobates varius* spec. nov.: 1. Dorsal aspect. 2. Ventral aspect. 3. Lamella and cuspis in dorsal view. 4. Tutoria. 5. Areae porosae. 6. Longitudinal section of dorsosejugal region. — 7. *H. rostromellatus*: Lamella and cuspis of a French specimen.

Material examined. Holotype (NSMT-Ac 9445, in spirit): Machiya Beach, Tsu-shi, Mié-ken, 18-XI-1972, N. OHKUBO. Paratopotypes (20 in spirit and 29 on a slide): 18-XI-1972 and 7-VIII-1973, N. OHKUBO. The type-series is deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo.

Measurement. For 26 males, length: 690(745)850 μ ; width: 470(520)570 μ . For 14 females, length: 760(806)840 μ ; width: 530(564)600 μ . In each case, width not containing pteromorphae.

Prodorsum. Lamella is a thin, relatively narrow plate with striation; in dorsal view, it slightly convex in the posterior half, but the outer margin is faintly concave in the anterior portion. Cuspis looks narrow in dorsal view because its exterior border concave as mentioned above and its interior margin steeply curved. Translamella is one or two, almost straight, weak lines where a prodorsal surface bends. Prolamella conspicuously ridged but relatively low in height; its anterior part hardly protruding from the outline of rostrum in dorsal view; its posterior end disappear in front of the lamellar tip. Tutorium with a pointed corner at its tip; the shape of the tip variable (Fig. 4). Interlamellar seta inclined forward. A very weak ridge runs between the pore of interlamellar seta and bothridium.

Notogaster. Dorsosejugal border slightly hanging over prodorsum, making a fine tunnel (Figs. 1 and 6, a). Pteromorpha really moves to conseat legs, but no suture nor depression exists along gynglymus on the dorsal surface. Ten pairs of notogastral setae very minute, almost invisible. Areae porosae variable in shape (Fig. 5); their surfaces look like emery paper.

Ventral aspect. Setal formula of epimerata: 3-1-2-2. Setae 1a, 2a, 3a and 4c shorter, and seta 1c the longest among the epimeral setae. Genital, aggenital and anal setae moderately long. Adanal setae fairly shorter than anal ones. These setae on venter conspicuously barbed except adanal ones, of which barbs are very faint. Sclerotized band absent at the posterior border of epimeral plate.

Remarks. Five species are hitherto known: *H. arborea* (BANKS, 1895), *H. perkinsi* JACOT, 1934, *H. rostromellatus* GRANDJEAN, 1936, *H. zumpti* SELLNICK, 1957 and *H. papuanus* BALOGH, 1970. As compared with the present new species, the North American species *H. arborea* sensu JACOT (1931) is characterized by 1) wider lamellae, 2) more developed prolamellae and 3) more strongly developed tutoria; the Hawaiian species *H. perkinsi* by 1) larger body size (920 to 1030 μ in length) and 2) more developed translamella; the European species *H. rostromellatus* by 1) larger body size, 2) wider lamellae and cuspides (Fig. 7), 3)

more conspicuous translamella, 4) higher prolamellae, 5) sideward protruding tutoria and 6) well developed, sclerotized band at the posterior border of epimeral plate; the South-West African species *H. zumpti* by very long notogastral setae; the New Guinean species *H. papuanus* by 1) very pointed tutoria and 2) larger body size (856 to 898 μ in length).

The shape of tutorium has been a good specific character in this genus (SELLNICK, 1957 and 1959; BALOGH, 1970), but the Japanese species *H. varius* shows large variation in its shape within the species. Most individuals of *H. varius* have tutoria similar to those of *H. perkinsi* or *H. rostromellatus*, but there are also some which have tutoria similar to those of *H. zumpti*. It seems to be necessary to re-examine individual variation of tutoria in each *Humerobates* species.

Notes on *Baloghobates* HAMMER, 1967

Though the holotype of *B. nudus* is preserved in spirit, it is slightly depressed. It might have been on a slide at first. The author examined it under incident illumination. Some concepts in the original description must be corrected as follows: (1) There is no "tiny tip" on either side of rostrum. Dorsal surface of rostrum completely smooth, having no "short dark tips". "Narrow ridges" along the lateral side of rostrum is also not present. Therefore, prolamella is completely absent. The features on the rostrum which HAMMER observed may be a shadow of internal structures. (2) The tutorium of the holotype has not a "free tip". Its shape is not like that of *B. parvoglobosus* which was figured in the same paper. The shape is just like that of *H. zumpti*. In other words, it is gradually rounded without pointed tip. Therefore, it is suggested that *B. nudus* also has a probability of having an individual variation in the shape of tutorium. (3) Notogastral setae very minute, but certainly present. (4) Though pteromorphae may really be "movable", the "distinct line" at the gynglymus is an internal structure. On the dorsal surface, only a weak depression (not a suture) can be seen at the gynglymus.

The presence of prolamella will be one of the most important generic characters of *Humerobates*. This is the reason why the author considers it adequate to separate *Baloghobates* and *Humerobates*. The two genera greatly resemble to each other as a whole. They may be closely related phylogenetically. At present, the former belongs to the family Ceratozetidae, while the latter is the only representative of the family Humeroibatidae. The systematical position of

Baloghobates must be studied in future.

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摘 要

大久保憲秀 (三重県鈴鹿市算所 3-3-32): ハナスジダニ属 (新称) の1新種記載およびパローコバネダニの知見。

我国で従来パローコバネダニ *Baloghobates nudus* として知られていたササラダニは別属の未知種であることが判明したので, *Humerobates varius* ハナスジダニ (改称) と命名, 記載した。真のパローコバネダニの模式標本を検し, 原記載に無い知見を併記した。

References

- AOKI, J., 1980. Faunal and ecological survey on soil micro-arthropods, especially oribatid mites of Minami-Daito Island. *Bull. Inst. Envir. Sci. Tech. Yokohama Natn. Univ.*, **6**: 119-126. (In Japanese with English synopsis).
- BANKS, N., 1895. On the Oribatoidea of the United States. *Am. Ent. Soc., Trans.*, **22**: 1-16.
- BALOGH, J., 1970. New oribatids (Acari) from New Guinea II. *Acta Zool. Acad. Sci. Hung.*, **16**: 291-344.
- GRANDJEAN, F., 1936. Les Oribates de Jean Frédéric HERMANN et de son père (Arachn. Acar.). *Ann. Soc. ent. France*, **105**: 27-110.
- 1970. Nouvelles observations sur les Oribates (8^e série). *Acarologia*, **12**: 849-876.
- HAMMER, M., 1967. Investigations on the cribatid fauna of New Zealand. part II. *Biol. Skr. Dan. Vid Selsk.*, **15**: 1-64, 40 pls.
- JACOT, A., 1931. A common arboreal moss mite *Humerobates humeralis*. *Boston Soc. Nat. Hist., Occ. Papers*, **5**: 369-382, pl. 19.
- 1934. Some Hawaiian Oribatoidea (Acarina). *B. P. Bishop Mus., Bull.*, **121**: 1-99, 16 pls.
- SELLNICK, M., 1957. Eine neue Milbe aus der Namib, Südwestafrika (Acari, Oribatei). *Journal Ent. Soc. S. Africa*, **20**: 250-256.
- 1959. Acarina from Southeastern Polynesia II (Oribatidae). *B. P. Bishop Mus., Occ. Papers*, **22**: 109-152.
- SUZUKI, K., 1975. Occurrence of *Baloghobates nudus* HAMMER, 1967, in Japan. *Acta Arachnol.*, **26**: 69-78.